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2. **** shows the word which can not be translated.

3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] Client equipment, server equipment, and a printer are connected to a network at least. It is the client/server system which processes the document created with said client equipment by said printer through said server equipment. To said client equipment A client data-processing means to process commo data and a I / O data with said server equipment, It has the data communication means which communicates with said server equipment and said printer. To said server equipment The printer management tool which acquires the information on the equipment duty about said printer, an operation situation, a printer name, and a software module, and manages this, While processing the commo data of a printer language translation means to change said document which has a printer language translation function and was created with said client equipment into the printer language which said printer can process, and said client equipment A printer server data-processing means to control said printer management tool and said printer language translation means, A destination information management means to manage the destination information on the communications-partner point which said client equipment and user set up, It has the data communication means which communicates with said client equipment and said printer. Said server equipment Analyze the printer information acquisition demand transmitted from said client data-processing means with said printer server data-processing means, and an usable printer is judged. It notifies to said client equipment by making the result into printer information. Said client equipment Analyze said received printer information with said clan ANTO data-processing means, and said user who is using the client equipment concerned is notified of this. Said user chooses said printer from said notified printer information. Said client equipment Said printer name chosen by said document to print and said user is notified to said server equipment. Said server equipment Said document which received, and said printer name are analyzed with said printer server data-processing means. It prints by changing into the printer language which can be processed by said printer by which said user chose said document using said printer language translation means, and transmitting this to the printer concerned. Then, the client/server system characterized by notifying the result of printing processing to said client equipment.

[Claim 2] Client equipment, server equipment, and a file server are connected to a network at least. It is the client/server system which processes the document created with said client equipment by said file server through said server equipment. To said client equipment A client data-processing means to process commo data and a I / O data with said server equipment, It has the data communication means which communicates with said server equipment and said file server. To said server equipment The file

server management tool which acquires the information on the equipment duty about said file server, an operation situation, a file server name, and a software module, and manages this, A format conversion means to change said document which has a format conversion function and was created with said client equipment into the format which said file server can process, A file server data-processing means to control said file server management tool and said format conversion means while processing commo data with said client equipment, A destination information management means to manage the destination information on the communications-partner point which said client equipment and user set up, It has the data communication means which communicates with said client equipment and said file server. Said server equipment Analyze the file-server-information acquisition demand transmitted from said client data-processing means with said file server data-processing means, and an usable file server is judged. It notifies to said client equipment by making the result into file server information. Said client equipment Analyze said received file server information with said clan ANTO data-processing means, and said user who is using the client equipment concerned is notified of this. Said user chooses said file server from said notified file server information. Said client equipment Said file server name chosen by said document which transmits, and said user is notified to said server equipment. Said server equipment Said document which received, and said file server name are analyzed with said file server data-processing means. Change into the file format which can be processed by said file server as which said user chose said document using said format conversion means, and this is transmitted to the file server concerned. Then, the client/server system characterized by notifying a processing result to said client equipment.

[Claim 3] Client equipment, server equipment, and facsimile apparatus are connected to a network at least. It is the client/server system which processes the document created with said client equipment with said facsimile apparatus through said server equipment. To said client equipment A client data-processing means to process commo data and a I / O data with said server equipment, It has the data communication means which communicates with said server equipment and said facsimile apparatus. To said server equipment The facsimile apparatus management tool which acquires the information on the equipment duty about said facsimile apparatus, an operation situation, a facsimile apparatus name, and a software module, and manages this, A format conversion means to change said document which has a format conversion function and was created with said client equipment into the format which said facsimile apparatus can process, A facsimile server data-processing means to control said facsimile apparatus management tool and said format conversion means while processing commo data with said client equipment, A destination information management means to manage the destination information on the communications-partner point which said client equipment and user set up, It has the data communication means which communicates with said client equipment and said facsimile apparatus. Said server equipment Analyze the facsimile apparatus information acquisition demand transmitted from said client data-processing means with said facsimile server data-processing means, and usable facsimile apparatus is judged. It notifies to said client equipment by making the result into facsimile apparatus information. Said client equipment Analyze said received facsimile apparatus information with said clan ANTO data-processing means, and said user who is using the client equipment concerned is notified of this. Said user chooses said facsimile apparatus from said notified facsimile apparatus information. Said client equipment Said facsimile apparatus name chosen by said document which transmits, and said user is notified to said server equipment. Said server equipment Said document

which received, and said facsimile apparatus name are analyzed with said facsimile server data-processing means. Change into the file format which can be processed with said facsimile apparatus with which said user chose said document using said format conversion means, and this is transmitted to the facsimile apparatus concerned. Then, the client/server system characterized by notifying the result of transmitting processing to said client equipment.

[Claim 4] Client equipment, server equipment, and a mail server are connected to a network at least. It is the client/server system which processes the document created with said client equipment by said mail server through said server equipment. To said client equipment A client data-processing means to process commo data and a I / O data with said server equipment, It has the data communication means which communicates with said server equipment and said mail server. To said server equipment The mail server management tool which acquires the information on the equipment duty about said mail server, an operation situation, a mail server name, and a software module, and manages this, A format conversion means to change said document which has a format conversion function and was created with said client equipment into the format which said mail server can process, A mail server data-processing means to control said mail server management tool and said format conversion means while processing commo data with said client equipment, A destination information management means to manage the destination information on the communications-partner point which said client equipment and user set up, It has the data communication means which communicates with said client equipment and said mail server. Said server equipment Analyze the mail server information acquisition demand transmitted from said client data-processing means with said mail server data-processing means, and an usable mail server is judged. It notifies to said client equipment by making the result into mail server information. Said client equipment Analyze said received mail server information with said clan ANTO data-processing means, and said user who is using the client equipment concerned is notified of this. Said user chooses said mail server from said notified mail server information. Said client equipment Said mail server name chosen by said document which transmits, and said user is notified to said server equipment. Said server equipment Said document which received, and said mail server name are analyzed with said mail server data-processing means. Change into the file format which can be processed by said mail server as which said user chose said document using said format conversion means, and this is transmitted to the mail server concerned. Then, the client/server system characterized by notifying the result of transmitting processing to said client equipment.

[Claim 5] A client/server system given in any 1 term of claims 1-4 characterized by equipping said client equipment with a document format conversion means to perform format conversion of said document transmitted to said server equipment, a file size decision means by which the file size of which format judges whether it is min, and a format selection means to choose a format of the minimum data size judged by said file size decision means.

[Claim 6] A client/server system given in any 1 term of claims 1-5 characterized by equipping said server equipment with the client equipment authentication means which attests whether said client equipment is able to access to said printer, said file server, said facsimile apparatus, or said mail server.

[Claim 7] To said client equipment and said server equipment It has an information storage means to memorize the information which exchanges and suits mutually. To said server equipment The newest information managed with said printer management tool, said facsimile apparatus management tool, or said mail server management tool is compared with the information memorized by said information

storage means. It has an extract means. the part which had modification in the contents of the information concerned -- difference -- the information extracted as information -- difference -- to said client equipment the difference extracted with said server equipment -- a client/server system given in any 1 term of claims 1-6 characterized by having a renewal means of information to make reflect information in the information memorized by said information storage means, and to update this information.

[Claim 8] The client/server system according to claim 1, 3, 5, 6, or 7 characterized by equipping said server equipment with the positional information management tool which expresses physical relationship with said near printer or said facsimile apparatus with said client equipment physically when two or more of said printers or said facsimile apparatus are connected to the network, and performing processing of a document to a printer or the facsimile apparatus concerned concerned.

[Claim 9] A client/server system given in any 1 term of claims 1-8 characterized by equipping said server equipment with a document analysis means to analyze the contents of the document which received from said client equipment.

[Claim 10] An error detection means to detect the error information of said printer, said file server, said facsimile apparatus, or said mail server to said server equipment, and to report this to a maintenance man, A setting modification means to change a setup of said printer, said file server, said facsimile apparatus, or said mail server according to the contents of the information transmitted by said maintenance man, Said printer management tool, said file server management tool, A client/server system given in any 1 term of claims 1-9 characterized by having a change information means to change or update the information managed in said facsimile apparatus management tool or said mail server management tool.

[Claim 11] A client/server system given in any 1 term of claims 1-10 characterized by to have an information acquisition means between servers acquire periodically informational a part or informational all that has been managed with the printer management tool, the file server management tool, facsimile apparatus management tool, or mail server management tool in server equipments other than the server equipment concerned to said server equipment of each client/server system in the case where two or more unit existence is recognized by the client/server system given in any 1 term of claims 1-10.

[Claim 12] The client/server system characterized by unifying claims 1, 2, and 3 and server equipment given in four.

DETAILED DESCRIPTION

[Detailed	Description	of	the	Invention]
[0001]				

[Field of the Invention] This invention relates to the client/server system which consists of the client equipment connected to the network, server equipment, a printer, a file server, facsimile apparatus, a mail server, etc.

[0002]

[Description of the Prior Art] Connecting and using OA equipment, such as a printer and facsimile apparatus, for a network in recent years has twisted widely.

[0003] Here, the conventional printer and the use gestalt of facsimile apparatus are explained. Drawing 7 is the explanatory view showing the conventional client/server system.

[0004] As shown in drawing 7, a printer 1, a printer 2, a printer 3, facsimile apparatus 4, a file server 5, a mail server 6, and client equipment 10 are connected on a network 40, and facsimile apparatus 4 is further connected to the general public line network 50.

[0005] If it is going to use all the printers 1, 2, and 3 when there are two or more printers as shown in drawing 7, the printer drivers 11, 12, and 13 of the printer corresponding to each printer 1, 2, and 3 must be beforehand installed in client equipment 10. And when printing the document created with client equipment 10, the printing command of the application which created the document is chosen first. Since a printing dialog will be displayed if it chooses, it is necessary to choose which printer driver 11 (12 13) from the dialog box by to which printer 1 (2 3) a user prints, and to set up the conditions of printing etc. by the selected printer driver 11 (12 13).

[0006] Moreover, in transmitting with the facsimile apparatus 4 by which the document created with client equipment 10 was connected to the network, it performs install of the facsimile application 15 or the facsimile driver 14 to client equipment 10 first. And after creating a document with applications, such as a word processor, the facsimile application 15 opens the document which started and created the facsimile application 15, and the facsimile number of a transmission place is inputted, or it is necessary to choose a transmission place from the address book of the facsimile application 15, and to transmit.

[0007] Furthermore, to transmit by E-mail, processing which attaches the document which opened the e-mail application 16 and was created by applications, such as a word processor, to an electronic mail is performed, and an e-mail address is inputted as the destination, or it is necessary to choose a transmission place from the address book of an electronic mail, and to transmit.

[0008] And when transmitting the document created with the word processor etc. to a file server 5, it must change into the format which can use a document by the file server 5 with client equipment 10, and must transmit by a file transfer protocol etc.

[0009]

[Problem(s) to be Solved by the Invention] Thus, in the conventional client/server system, when a word processor, the text created with application in addition to this, an image, etc. were printed, when there is a MULTIPLE printer, the printer driver of all printers is beforehand installed in client equipment, and printing was performed to the printer by choosing the target printer driver at the time of printing.

[0010] Therefore, it connects with the network or it is necessary no to install in client equipment the printer drivers of the printer which he wants to use, and the printer can be used if there is no printer driver.

[0011] Furthermore, before client equipment outputs various kinds of setup called the resolution and the color monochrome at the time of an output, they must be set up.

[0012] Moreover, when carrying out facsimile transmission of the created document, once carrying facsimile application in client equipment, only the number of available facsimile machines starting facsimile application independently after that in addition to the application which created the document, opening a document file, and choosing the destination by the address book etc. first or outputting by the printer, it must transmit with the existing facsimile machine. Similarly, when performing electronic mail

transmission, the application of an electronic mail is started, and attachment processing of the created document must be carried out, and it must transmit. Furthermore, complicated processing in which it transmits after performing format conversion also with the transfer to a file server so that the file format of a file server may be suited by the client equipment side is needed. [0013] Then, this invention aims at offering the client/server system which can perform printing of a document, or transmission, without starting exclusive application and performing a transfer and format conversion of each document by the client equipment side.

[0014]

[Means for Solving the Problem] In order to solve this technical problem, the client/server system of this invention Client equipment, server equipment, and a printer are connected to a network at least. It is the client/server system which processes the document created with client equipment by the printer through server equipment. To client equipment It has a client data-processing means to process commo data and a I / O data with server equipment, and the data communication means which communicates with server equipment and a printer. To server equipment The printer management tool which acquires the information on the equipment duty about a printer, an operation situation, a printer name, and a software module, and manages this, While processing the commo data of a printer language translation means to change the document which has a printer language translation function and was created with client equipment into the printer language which a printer can process, and client equipment A printer server data-processing means to control a printer management tool and a printer language translation means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a printer. Server equipment Analyze the printer information acquisition demand transmitted from the client data-processing means with a printer server data-processing means, and an usable printer is judged. It notifies to client equipment by making the result into printer information. Client equipment Analyze the received printer information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a printer from the notified printer information. Client equipment The printer name chosen by the document and user who print is notified to server equipment. Server equipment The document and printer name which were received are analyzed with a printer server data-processing means. It prints by changing into the printer language which can be processed by the printer by which the user chose the document using the printer language translation means, and transmitting this to the printer concerned, and is characterized by notifying the result of printing processing to client equipment after that.

[0015] It becomes possible to perform printing of a document, without starting exclusive application and performing a transfer and the format conversion of a document with client equipment, since it becomes possible to change a document [can acquire the information on the operation situation of a printer, or an usable printer, and] to output with client equipment into predetermined printer language, and to print it, without this installing the exclusive application of all the printers connected to client equipment in the network.

[0016] Moreover, the client/server system of this invention Client equipment, server equipment, and a file server are connected to a network at least. It is the client/server system which processes the document created with client equipment by the file server through server equipment. To client

equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and a file server. To server equipment The file server management tool which acquires the information on the equipment duty about a file server, an operation situation, a file server name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which a file server can process, and client equipment A file server data-processing means to control a file server management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a file server. Server equipment Analyze the file-server-information acquisition demand transmitted from the client data-processing means with a file server data-processing means, and an usable file server is judged. It notifies to client equipment by making the result into file server information. Client equipment Analyze the received file server information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a file server from the notified file server information. Client equipment The file server name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and file server name which were received are analyzed with a file server data-processing means. It changes into the file format which can be processed by the file server as which the user chose the document using the format conversion means, this is transmitted to the file server concerned, and it is characterized by notifying a processing result to client equipment after that.

[0017] It becomes possible to perform transmission of a document, without starting exclusive application and performing a transfer and the format conversion of a document with client equipment, since it becomes possible to change a document [can acquire the information on the operation situation of a file server, or an usable file server, and] to output with client equipment into a predetermined file format, and to transmit, without this installing the exclusive application of all the file servers connected to client equipment in the network.

[0018] Furthermore, the client/server system of this invention Client equipment, server equipment, and facsimile apparatus are connected to a network at least. It is the client/server system which processes the document created with client equipment with facsimile apparatus through server equipment. To client equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and facsimile apparatus. To server equipment The facsimile apparatus management tool which acquires the information on the equipment duty about facsimile apparatus, an operation situation, a facsimile apparatus name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which facsimile apparatus can process, and client equipment A facsimile server data-processing means to control a facsimile apparatus management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and facsimile apparatus. Server equipment Analyze the facsimile apparatus information acquisition demand

transmitted from the client data-processing means with a facsimile server data-processing means, and usable facsimile apparatus is judged. It notifies to client equipment by making the result into facsimile apparatus information. Client equipment Analyze the received facsimile apparatus information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses facsimile apparatus from the notified facsimile apparatus information. Client equipment The facsimile apparatus name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and facsimile apparatus name which were received are analyzed with a facsimile server data-processing means. It changes into the file format which can be processed with the facsimile apparatus with which the user chose the document using the format conversion means, this is transmitted to the facsimile apparatus concerned, and it is characterized by notifying the result of transmitting processing to client equipment after that.

[0019] It becomes possible to perform transmission of a document, without starting exclusive application and performing a transfer and the format conversion of a document with client equipment, since it becomes possible to change and send a document [can acquire the information on the operation situation of facsimile apparatus or usable facsimile apparatus, and] to output with client equipment to a predetermined file format, without this installing the exclusive application of all the facsimile apparatus connected to client equipment in the network.

[0020] And the client/server system of this invention Client equipment, server equipment, and a mail server are connected to a network at least. It is the client/server system which processes the document created with client equipment by the mail server through server equipment. To client equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and a mail server. To server equipment The mail server management tool which acquires the information on the equipment duty about a mail server, an operation situation, a mail server name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which a mail server can process, and client equipment A mail server data-processing means to control a mail server management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a mail server. Server equipment Analyze the mail server information acquisition demand transmitted from the client data-processing means with a mail server data-processing means, and an usable mail server is judged. It notifies to client equipment by making the result into mail server information. Client equipment Analyze the received mail server information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a mail server from the notified mail server information. Client equipment The mail server name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and mail server name which were received are analyzed with a mail server data-processing means. It changes into the file format which can be processed by the mail server as which the user chose the document using the format conversion means, this is transmitted to the mail server concerned, and it is characterized by notifying the result of transmitting processing to client equipment after that.

[0021] It becomes possible to perform transmission of a document as an electronic mail, without starting

exclusive application and performing a transfer and the format conversion of a document with client equipment, since it becomes possible to change and send a document [can acquire the information on the operation situation of a mail server, or an usable mail server, and] to output with client equipment to a predetermined file format, without this installing the exclusive application of all the mail servers connected to client equipment in the network.
[0022]

[Embodiment of the Invention] As for invention of this invention according to claim 1, client equipment, server equipment, and a printer are connected to a network at least. It is the client/server system which processes the document created with client equipment by the printer through server equipment. To client equipment It has a client data-processing means to process commo data and a I / O data with server equipment, and the data communication means which communicates with server equipment and a printer. To server equipment The printer management tool which acquires the information on the equipment duty about a printer, an operation situation, a printer name, and a software module, and manages this, While processing the commo data of a printer language translation means to change the document which has a printer language translation function and was created with client equipment into the printer language which a printer can process, and client equipment A printer server data-processing means to control a printer management tool and a printer language translation means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a printer. Server equipment Analyze the printer information acquisition demand transmitted from the client data-processing means with a printer server data-processing means, and an usable printer is judged. It notifies to client equipment by making the result into printer information. Client equipment Analyze the received printer information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a printer from the notified printer information. Client equipment The printer name chosen by the document and user who print is notified to server equipment. Server equipment The document and printer name which were received are analyzed with a printer server data-processing means. It prints by changing into the printer language which can be processed by the printer by which the user chose the document using the printer language translation means, and transmitting this to the printer concerned. Then, it is the client/server system which notifies the result of printing processing to client equipment. Without installing the exclusive application of all the printers connected to client equipment in the network Since it becomes possible to change a document [can acquire the information on the operation situation of a printer, or an usable printer, and] to output with client equipment into predetermined printer language, and to print it It has an operation of becoming possible to perform printing of a document, without starting exclusive application and performing a transfer and format conversion of a document with client equipment.

[0023] As for invention of this invention according to claim 2, client equipment, server equipment, and a file server are connected to a network at least. It is the client/server system which processes the document created with client equipment by the file server through server equipment. To client equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and a file server. To server equipment The file server management tool which acquires the information on the

equipment duty about a file server, an operation situation, a file server name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which a file server can process, and client equipment A file server data-processing means to control a file server management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a file server. Server equipment Analyze the file-server-information acquisition demand transmitted from the client data-processing means with a file server data-processing means, and an usable file server is judged. It notifies to client equipment by making the result into file server information. Client equipment Analyze the received file server information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a file server from the notified file server information. Client equipment The file server name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and file server name which were received are analyzed with a file server data-processing means. Change into the file format which can be processed by the file server as which the user chose the document using the format conversion means, and this is transmitted to the file server concerned. Then, it is the client/server system which notifies a processing result to client equipment. Without installing the exclusive application of all the file servers connected to client equipment in the network Since it becomes possible to change a document [can acquire the information on the operation situation of a file server, or an usable file server, and] to output with client equipment into a predetermined file format, and to transmit It has an operation of becoming possible to perform transmission of a document, without starting exclusive application and performing a transfer and format conversion of a document with client equipment.

[0024] As for invention of this invention according to claim 3, client equipment, server equipment, and facsimile apparatus are connected to a network at least. It is the client/server system which processes the document created with client equipment with facsimile apparatus through server equipment. To client equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and facsimile apparatus. To server equipment The facsimile apparatus management tool which acquires the information on the equipment duty about facsimile apparatus, an operation situation, a facsimile apparatus name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which facsimile apparatus can process, and client equipment A facsimile server data-processing means to control a facsimile apparatus management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and facsimile apparatus. Server equipment Analyze the facsimile apparatus information acquisition demand transmitted from the client data-processing means with a facsimile server data-processing means, and usable facsimile apparatus is judged. It notifies to client equipment by making the result into facsimile apparatus information. Client equipment Analyze the received facsimile apparatus information with a

clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses facsimile apparatus from the notified facsimile apparatus information. Client equipment The facsimile apparatus name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and facsimile apparatus name which were received are analyzed with a facsimile server data-processing means. Change into the file format which can be processed with the facsimile apparatus with which the user chose the document using the format conversion means, and this is transmitted to the facsimile apparatus concerned. Then, it is the client/server system which notifies the result of transmitting processing to client equipment. Without installing the exclusive application of all the facsimile apparatus connected to client equipment in the network Since it becomes possible to change and send a document [can acquire the information on the operation situation of facsimile apparatus, or usable facsimile apparatus, and] to output with client equipment to a predetermined file format It has an operation of becoming possible to perform transmission of a document, without starting exclusive application and performing a transfer and format conversion of a document with client equipment.

[0025] As for invention of this invention according to claim 4, client equipment, server equipment, and a mail server are connected to a network at least. It is the client/server system which processes the document created with client equipment by the mail server through server equipment. To client equipment A client data-processing means to process commo data and a I / O data with server equipment, It has the data communication means which communicates with server equipment and a mail server. To server equipment The mail server management tool which acquires the information on the equipment duty about a mail server, an operation situation, a mail server name, and a software module, and manages this, While processing the commo data of a format conversion means to change the document which has a format conversion function and was created with client equipment into the format which a mail server can process, and client equipment A mail server data-processing means to control a mail server management tool and a format conversion means, A destination information management means to manage the destination information on the communications-partner point which client equipment and a user set up, It has the data communication means which communicates with client equipment and a mail server. Server equipment Analyze the mail server information acquisition demand transmitted from the client data-processing means with a mail server data-processing means, and an usable mail server is judged. It notifies to client equipment by making the result into mail server information. Client equipment Analyze the received mail server information with a clan ANTO data-processing means, and the user who is using the client equipment concerned is notified of this. A user chooses a mail server from the notified mail server information. Client equipment The mail server name chosen by the document and user who transmit is notified to server equipment. Server equipment The document and mail server name which were received are analyzed with a mail server data-processing means. Change into the file format which can be processed by the mail server as which the user chose the document using the format conversion means, and this is transmitted to the mail server concerned. Then, it is the client/server system which notifies the result of transmitting processing to client equipment. Without installing the exclusive application of all the mail servers connected to client equipment in the network Since it becomes possible to change and send a document [can acquire the information on the operation situation of a mail server, or an usable mail server, and] to output with client equipment to a predetermined file format It has an operation of becoming possible to perform

transmission of a document as an electronic mail, without starting exclusive application and performing a transfer and format conversion of a document with client equipment.

[0026] Invention of this invention according to claim 5 is set to invention given in any 1 term of claims 1-4. To client equipment A document format conversion means to perform format conversion of the document transmitted to server equipment, A file size decision means by which the file size of which format judges whether it is min, It is the client/server system equipped with a format selection means to choose a format of the minimum data size judged by the file size decision means. A document can be automatically changed into the file format of the minimum data size, and it can transmit to server equipment from client equipment, and has an operation that reduction of the amount of data can be aimed at.

[0027] Invention of this invention according to claim 6 is set to invention given in any 1 term of claims 1-5. To server equipment It is the client/server system equipped with the client equipment authentication means which attests whether client equipment is able to access to a printer, a file server, facsimile apparatus, or a mail server. Since only the information on the printer which can access client equipment, a file server, facsimile apparatus, or a mail server is notified to client equipment, it has an operation that reduction of the amount of data to transmit can be aimed at.

[0028] Invention of this invention according to claim 7 is set to invention given in any 1 term of claims 1-6. To client equipment and server equipment It has an information storage means to memorize the information which exchanges and suits mutually. To server equipment The newest information managed with the printer management tool, the facsimile apparatus management tool, or the mail server management tool is compared with the information memorized by the information storage means. It has an extract means. the part which had modification in the contents of the information concerned -- difference -- the information extracted as information -- difference -- to client equipment It is the client/server system equipped with a renewal means of information to make reflect information in the information memorized by the information storage means, and to update this information. the difference extracted with server equipment -- The printer by which client equipment was connected to the network, a file server, the time of processing a document using facsimile apparatus or a mail server -- the newest device information -- acquiring -- information -- difference -- the difference of the information concerned extracted by the extract means, since only information is notified to client equipment and information is updated That what is necessary is just to transmit the data of the information only on a modification part, reduction of the amount of transmit data can be aimed at, and it has an operation that information can be updated in a short time.

[0029] Invention of this invention according to claim 8 is set to invention according to claim 1, 3, 5, 6, or 7. [when two or more printers or facsimile apparatus are connected to the network] to server equipment It has the positional information management tool which expresses physical relationship with a near printer or facsimile apparatus with client equipment physically. It is the client/server system to which processing of a document is performed to a printer or the facsimile apparatus concerned concerned. Since the document having been outputted to the printer and facsimile apparatus nearest to an addressee, and having outputted the document to the printer concerned and facsimile apparatus to the addressee further is notified It has an operation that the communication to the addressee from a transmitting person becomes unnecessary, and a user's burden mitigates.

[0030] Invention of this invention according to claim 9 is set to invention given in any 1 term of claims 1-

8. To server equipment It is the client/server system equipped with a document analysis means to analyze the contents of the document which received from client equipment. When only the document which a client data-processing means processes is transmitted as data, a paper size, a color, etc. are judged with a document analysis means. Since automatic selection of the device in which the optimal processing is possible is made and a document is outputted, it has an operation that it is printable by being quality, decreasing a user's burden.

[0031] Invention of this invention according to claim 10 is set to invention given in any 1 term of claims 1-9. To server equipment An error detection means to detect the error information of a printer, a file server, facsimile apparatus, or a mail server, and to report this to a maintenance man, A setting modification means to change a setup of a printer, a file server, facsimile apparatus, or a mail server according to the contents of the information transmitted by the maintenance man, It is the client/server system equipped with a change information means to change or update the information managed in the printer management tool, the file server management tool, the facsimile apparatus management tool, or the mail server management tool. The generated error is detected and a maintenance man is notified of this, and since setting modification, and informational informational modification and updating are performed by the information transmitted by the maintenance man, it has an operation that the burden of error processing can be reduced by the user.

[0032] To the server equipment of each client/server system in the case where two or more unit existence is recognized by the client/server system given in any 1 term of claims 1-10, invention of this invention according to claim 11 The printer management tool in server equipments other than the server equipment concerned, a file server management tool, It is the client/server system equipped with an information acquisition means between servers to acquire periodically informational a part or informational all that has been managed with the facsimile apparatus management tool or the mail server management tool. The device information managed with different server equipment from the server equipment belonging to a certain client equipment can be acquired, or a document can be outputted, and it has an operation of becoming possible to use the device of other client/server systems.

[0033] Invention of this invention according to claim 12 is a client/server system with which claims 1, 2, and 3 and server equipment given in four are united, and has an operation of becoming possible to use freely any of the file server and facsimile apparatus by which client equipment was connected to the network, and a mail server they being, and to transmit document data, and becoming usable [two or more devices] from desired client equipment with one server equipment.

[0034] Hereafter, the gestalt of operation of this invention is explained using drawing 6 from drawing 1 . In addition, in these drawings, the same sign is given to the same component, and the duplicate explanation is omitted. Moreover, the explanation which overlapped also about the component which has the same function is omitted.

[0035] The schematic diagram showing the client/server system whose drawing 1 is the gestalt of 1 operation of this invention, The block diagram showing the internal configuration of client equipment [in / in drawing 2 / the client/server system of drawing 1], and printer server equipment, The block diagram showing the internal configuration of client equipment [in / in drawing 3 / the client/server system of drawing 1], and file server equipment, The block diagram showing the internal configuration of client equipment [in / in drawing 4 / the client/server system of drawing 1], and facsimile server equipment, The block diagram showing the internal configuration of client equipment [in / in drawing 5

/ the client/server system of drawing 1] and mail server equipment and drawing 6 are the schematic diagrams showing the example of expansion of the client/server system of drawing 1 .

[0036] As shown in drawing 1 , the client/server system of the gestalt of this operation is built with two or more protocols on the public line network 80 in which a data transfer is possible, and client equipment 100, server equipment 110, a printer 140,142, a file server 144,146, a mail server 145, and facsimile apparatus 147 are connected. The public line network 70 which can perform telephone, data communication, facsimile data communication, etc. further is connected to facsimile. Moreover, server equipment 110 consists of printer server equipment 139, file server equipment 169, facsimile server equipment 189, and mail server equipment 209. In addition, printer server equipment 139, file server equipment 169, facsimile server equipment 189, and mail server equipment 209 may be packed into one server equipment 110, and may become according to, respectively.

[0037] Here, as for a printer 140, a document is outputted from the client equipment 100 on the public line network 80. A printer 142 is a printer by which it has printer language which is different in a printer 140, and models also differ, and a document is outputted from the client equipment 100 on the public line network 80 as well as a printer 140. Printer server equipment 139 had the function manager of a printer, and the data of a printer 140 or a printer 142 are spooled, or it has managed the information on a printer 140 or a printer 142 etc.

[0038] A file server 144 saves the file from client equipment 100 in a predetermined format format. Moreover, a file server 146 saves the file from client equipment 100 in a file format format which is different in a file server 144. File server equipment 169 has the function manager of a file server, and information acquisition and operation situation of a file server 144 or a file server 146 are managed, or it performs conversion in the file format format of a file server 144 or a file server 146.

[0039] Facsimile apparatus 147 has available transmission and reception of the facsimile by the client equipment 100 which transmitted and received facsimile or was further connected to the public line network 80 using the usual facsimile communications protocol from the public line network 70. Facsimile server equipment 189 is managing the facsimile apparatus 147 connected to such a public line network 80 and the public line network 70. This facsimile server equipment 189 can manage now one or more facsimile apparatus 147.

[0040] A mail server 145 judges a phase hand through the public line network 80, and performs delivery of e-mail, and reception. And mail server equipment 209 can manage now such one or more mail servers 145, and performs management of the operation situation of a mail server 145, or mail server information.

[0041] The server equipment 110 shown in drawing 2 is printer server equipment 139 with which the printer server function was mounted, and has the function which communicates by connecting with communication devices, such as the public line network 80 and the public line network 70.

[0042] Client equipment 100 consists of the client data-processing means 101 equipped with the renewal means 107 of printer information (renewal means of information), the data communication means 102, the document format conversion means 103, a file size decision means 104, a format selection means 105, and a printer information storage means 106 so that it may illustrate.

[0043] Here, through the public line network 80 or the public line network 70, commo data with server equipment 110 is processed, or the client data-processing means 101 processes I / O datas, such as a monitor, and a keyboard, a mouse. The data communication means 102 communicates with the device

connected to server equipment 110, the printer 140, the printer 142, and the public line network 80 using the transmission line of the public line network 80 or public line network 70 grade. The document format conversion means 103 performs various format conversion of the document transmitted to server equipment 110. It judges whether the file size decision means 104 has the smallest file size of which format. The format selection means 105 chooses a format of the minimum data size judged by the file size decision means 104. The printer information storage means 106 memorizes the various printer information sent to client equipment 100 from server equipment 110. The renewal means 107 of printer information updates the various printer information transmitted from server equipment 110. [0044] Printer server equipment 139 the printer server data-processing means 120, the printer management tool 121, the printer language translation means 122, the destination information management means 123, the data communication means 124, the client equipment authentication means 125, the printer information storage means (information storage means) 130, and printer information -- difference -- an extract means 131, the printer positional information management tool (positional information management tool) 132, the document analysis means 133, the error detection means 134, the printer change information means (change information means) 135, the printer setting modification means (setting modification means) 136 (Information difference extract means) And it consists of printer information acquisition means 137 between servers (information acquisition means between servers).

[0045] Here, the data communication means 124 communicates with client equipment 100 or the device of printer 140,142 grade through the transmission line of the public line network 80 or public line network 70 grade. The printer server data-processing means 120 processes commo data with client equipment 100. The printer management tool 121 has the function to manage various information, such as equipment duty of the printer 140,142 connected to the public line network 80 one or more sets, and an operation situation. The printer language translation means 122 is changed into the printer language which can process the printer 140 (142) which had the document created with client equipment 100 chosen. The destination information management means 123 manages the destination information on the communications partner which the client equipment 100 and the user who were connected to the public line network 80 set up. The client equipment authentication means 125 attests whether access to the printer 140 (142) by which client equipment 100 was chosen is possible. The printer information storage means 130 memorizes the printer information which exchanges for client equipment 100 and suits. printer information -- difference -- the extract means 131 compares the newest printer information managed with the printer management tool 121 with the printer information saved for the printer information storage means 130, and extracts only the part which modification has produced. The printer positional information management tool 132 is looked like [the client equipment 100 of arbitration], respectively, and expresses physical relationship with the near printer 140 (142) physically. The document analysis means 133 analyzes the contents of the document which received from client equipment 100. When an error occurs to the printer managed with the printer management tool 121, the error detection means 134 detects this and reports it to maintenance men, such as a selling firm and a manufacturer. The printer change information means 135 updates the various printer information of the information on the software module of the printer 140,142 managed in the printer management tool 121. The printer setting modification means 136 changes a setup of the body of a printer according to the contents of the printer information transmitted by the selling firm and the manufacturer. The printer

information acquisition means 137 between servers acquires periodically a part or all of printer information that has been managed with the printer management tool in server equipments 110 other than the server equipment 110 concerned.

[0046] In such client equipment 100 and server equipment 110 (printer server equipment 139), the case where the document created with client equipment 100 is outputted to a printer 140 or a printer 142 is explained.

[0047] In order to output the document created with client equipment 100 to the printer 140 (142) connected to the public line network 80, actuation which chooses first the printing command of the application which created the document, or prints is performed. Then, the client data-processing means 101 of client equipment 100 communicates a printing demand for the data communication means 124 of server equipment 110 using the data communication means 102.

[0048] The data communication means 124 which received data transmits the received data to the printer server data-processing means 120. A printer server data-processing means 120 by which data were received analyzes the contents of data. If it judges that the data is the printer information acquisition demand from client equipment 100 as a result of the printer server data-processing means' 120 analyzing the contents of data, the printer server data-processing means 120 will acquire the printer information managed with the printer management tool 121. The printer server data-processing means 120 which acquired printer information creates the information on a printer usable now based on the printer management information. And the printer server data-processing means 120 transmits the created printer information to the data communication means 124. A data communication means 124 by which printer information was transmitted transmits printer information to the client equipment 100 which required.

[0049] The client equipment 100 which received printer information with the data communication means 102 transmits the data to the client data-processing means 101. A client data-processing means 101 by which data were received analyzes the contents of data. And as a result of analyzing, the user using client equipment 100 is notified of the information on the printer which can be used. A user inputs the printer for which it asks with an input unit according to the notice. Then, the client data-processing means 101 judges the input result, and the selected printer information and the selected document are transmitted to the data communication means 102. The data communication means 102 transmits data to server equipment 110.

[0050] The server equipment 110 which received the selected printer information and a document transmits the data to the printer server data-processing means 120. A printer server data-processing means 120 by which data were received judges the printer which analyzed printer information and was chosen. Then, the printer server data-processing means 120 judges the printer language which can process the printer chosen based on the information managed with the printer management tool 121. A printer server data-processing means 120 by which printer language was judged changes a document into the printer language which can process the printer chosen using the printer language translation means 122. After conversion is completed, the printer server data-processing means 120 is transmitted to the printer 140 (142) chosen using the data communication means 124 in the changed document. Thereby, the printer 140 (142) which received data processes the data, and outputs this.

[0051] Next, in client equipment 100 and server equipment 110 (printer server equipment 139), the case where the document created with client equipment 100 is outputted to server equipment 110 is

explained.

[0052] In client equipment 100, in case a document to output to server equipment 110 is transmitted, the client data-processing means 101 transmits data to transmit to the file size decision means 104 first. A file size decision means 104 by which data were received calculates what file size the received data become in each format. And the result depended on the file size decision means 104 is notified to the format selection means 105. A format selection means 105 by which the notice was received chooses the format which becomes the minimum file size, and notifies the selected result to the client data-processing means 101.

[0053] In order to change into the file format chosen by the format selection means 105, the notified client data-processing means 101 transmits a document to the document format conversion means 103, and changes this into the selected file format. The data changed by the document format conversion means 103 are transmitted to server equipment 110 in the minimum data size through the data communication means 102.

[0054] Next, the case where a document is printed using the printer of arbitration connected to the public line network 80, the client equipment 100, for example, the client equipment, of arbitration, is explained.

[0055] In this case, the printer server data-processing means 120 checks the user name which analyzes those receiving contents and is using client equipment 100, when the printer information acquisition demand from client equipment 100 is received. A printer server data-processing means 120 by which the user name was checked transmits a user name to the client equipment authentication means 125. A user judges an available printer from the managed security information, and a client equipment authentication means 125 by which the user name was received transmits the decision result to the printer server data-processing means 120.

[0056] In order that the user who performed the demand may acquire the information on an available printer from the result concerned, a printer server data-processing means 120 by which the result was received has an available user, and acquires only the printer information which is carrying out current operation from the printer information managed by the printer management tool 121. And the printer server data-processing means 120 transmits the acquired printer information to the client equipment 100 which required using the data communication means 124.

[0057] Next, the case of the others to which a document is printed using the printer of arbitration connected to the public line network 80, the client equipment 100, for example, the client equipment, of arbitration, is explained.

[0058] A printer server data-processing means 120 by which the printer information acquisition demand was received also makes the printer information storage means 130 of server equipment 110 memorize printer information here while transmitting printer information to the client equipment 100. Client equipment 100 notifies and combines printer information with a user, and the printer information storage means 106 is made to memorize it at this time. And when client equipment 100 prints a document using the printer connected to the public line network 80, a printer information acquisition demand is transmitted to server equipment 110.

[0059] A printer server data-processing means 120 by which this demand was received processes whether printer information was transmitted last time. If having transmitted printer information last time is judged as a result of processing, the last printer information will be acquired from the printer

information storage means 130 of server equipment 110. Furthermore, the printer server data-processing means 120 acquires the present, i.e., newest printer information. the printer server data-processing means 120 which acquired the last printer information and the newest printer information -- the printer information within the printer server data-processing means 120 -- difference -- the extract means 131 is started. the started printer information -- difference -- the extract means 131 compares the last printer information with the newest printer information. consequently -- if the contents of information have modification -- printer information -- difference -- the extract means 131 extracts only a part for the modification content block. and printer information -- difference -- the printer information which extracted the extract means 131 -- difference -- a part is transmitted to the printer server data-processing means 120. a printer server data-processing means 120 by which the result was received -- the difference -- it transmits to client equipment 100 by making only information into printer information.

[0060] a client data-processing means 101 by which printer information was received -- received data -- analyzing -- printer information -- difference -- when it is shown that it is information, the renewal means 107 of printer information is started. and the information the started renewal means 107 of printer information is remembered to be with the printer information storage means 106 in the received printer information -- difference -- you make it reflected as information

[0061] Next, when outputting to the printer connected to the public line network 80 from the client equipment 100 of arbitration, the case where printing of addressing [a certain specification] to a person of the transmitting-side user who is using the client equipment 100 concerned is specified using the identifier of the client equipment 100 which the specific person uses is explained.

[0062] In this case, the client data-processing means 101 transmits a receiving-side client device name to the document and coincidence which are printed to the printer server data-processing means 120 as data. If a printer server data-processing means 120 by which the information was received analyzes the contents and detects a receiving-side client device name as a result of analysis, it will start the printer positional information management tool 132. Based on the managed information, the printer positional information management tool 132 which started judges a near printer physically to receiving-side client equipment, and notifies the printer name to the printer server data-processing means 120.

[0063] A printer server data-processing means 120 by which the notice was received acquires the printer language information that the printer concerned is convertible through the printer management tool 121, in order to judge the printer language which can process the printer. Then, if the printer language translation means 122 performs printer language translation and data are transmitted to a printer, a printer will output data. At this time, the printer server data-processing means 120 performs the notice by which printing is performed by the client equipment of a transmission place with the electronic mail etc. at the receiving user.

[0064] Next, the case where an error occurs to the printer of the public line network 80 is explained. When an error occurs to the printer of the public line network 80, an error is detected by the error detection means 134. As for the detected error, the contents are judged by the printer server data-processing means 120. And according to extent of the judged error, the contents of an error are transmitted to a selling firm or a manufacturer using data communication means, such as facsimile and an electronic mail. Furthermore, the printer information received from the manufacturer or the selling firm is analyzed with the printer server data-processing means 120, and when the contents are the

information about a setup of a printer, the body of a printer is set up using the printer setting modification means 136. Moreover, when the contents are the things about information, such as a version of a software module, printer information is changed using the printer change information means 135.

[0065] Here, if the information about the management information to the printer 280 managed with server equipment 270 which is different in the server equipment 250 with which client equipment 100 is managed in each client/server system etc. is periodically exchanged with the printer information acquisition means 137 between servers when there are two or more client/server systems as shown in drawing 6, informational acquisition and an informational output can be performed from client equipment 100 to a printer 280.

[0066] Next, client equipment 100 and file server equipment 169 (server equipment 110) are explained using drawing 3.

[0067] Client equipment 100 consists of the client data-processing means 101 equipped with the renewal means 162 of file server information (renewal means of information), the data communication means 102, the document format conversion means 103, a file size decision means 104, a format selection means 105, and a file-server-information storage means 164 so that it may illustrate. Moreover, file server equipment 169 the file server data-processing means 150, the file server management tool 151, the format conversion means 152, the destination information management means 123, the data communication means 124, the client equipment authentication means 125, and file server information - difference - an extract means 161, the document analysis means 133, the error detection means 154, the file-server-information modification means (change information means) 165, the file server setting modification means (setting modification means) 166, and the file-server-information acquisition means between servers (Information difference extract means) (Information acquisition means between servers) It consists of 157.

[0068] Here, the file server data-processing means 150 processes data communication with client equipment 100. The file server management tool 151 manages the information on file server equipment 169. The format conversion means 152 is changed into the specified file format.

[0069] When transmitting a document using the file server 144,146 of the arbitration by which such client equipment 100 was connected to the public line network 80, client equipment 100 transmits a file-server-information acquisition demand to file server equipment 169. A file server data-processing means 150 by which the file-server-information acquisition demand was received analyzes the contents of data, and acquires the information on the file server 144,146 available now from the file server management tool 151. The acquired file server data-processing means 150 transmits the information to client equipment 100.

[0070] A client data-processing means 101 of client equipment 100 by which the information concerned was received notifies a user of the file server 144,146 which can analyze and use the contents. And file data is transmitted to file server equipment 169 with the file server information specified by the user. If the file transmitted to file server equipment 169 has the need, it will be changed by the format conversion means 152, and will be transmitted to a file server 144,146.

[0071] Next, client equipment 100 and facsimile server equipment 189 (server equipment 110) are explained using drawing 4.

[0072] Client equipment 100 consists of the client data-processing means 101 equipped with the renewal

means 187 of facsimile information (renewal means of information), the data communication means 102, the document format conversion means 103, a file size decision means 104, a format selection means 105, and a facsimile apparatus information storage means 184 so that it may illustrate. Moreover, facsimile server equipment 189 The facsimile server data-processing means 170, the facsimile apparatus management tool 171, the format conversion means 152, the destination information management means 123, the data communication means 124, the client equipment authentication means 125, a facsimile apparatus information storage means (Information storage means) 180 and facsimile apparatus information -- difference -- an extract means 181, a facsimile positional information management tool (Information difference extract means) 188, the document analysis means 133, the error detection means 174, the facsimile apparatus change information means (change information means) 185, the facsimile apparatus setting modification means (setting modification means) 186, and the facsimile apparatus information acquisition means between servers (Positional information management tool) (Information acquisition means between servers) It consists of 199.

[0073] Here, the facsimile server data-processing means 170 processes data communication with client equipment 100. The facsimile apparatus management tool 171 manages the information on facsimile apparatus 147. The format conversion means 152 is changed into the appointed file format.

[0074] When transmitting a document using the facsimile apparatus 147 of arbitration by which such client equipment 100 was connected to the network, client equipment 100 transmits a facsimile apparatus information acquisition demand to facsimile server equipment 189. A facsimile server data-processing means 170 by which the facsimile apparatus information acquisition demand was received analyzes the contents of data, and acquires the information on facsimile apparatus available now from the facsimile apparatus management tool 171. The facsimile server data-processing means 170 which acquired the information concerned transmits the information to client equipment 100.

[0075] A client data-processing means 101 of client equipment 100 by which information was received notifies a user of the facsimile apparatus 147 which can analyze and use the contents. And file data is transmitted to facsimile server equipment 189 with the facsimile apparatus information specified by the user. If the file transmitted to facsimile server equipment 189 has the need, it will be changed by the format conversion means 152, and will be transmitted to facsimile apparatus 147. And facsimile apparatus 147 transmits the sent document.

[0076] Finally, drawing 5 is used and explained about client equipment 100 and mail server equipment 209 (server equipment 110).

[0077] As shown in drawing 5, client equipment 100 consists of the client data-processing means 101 equipped with the renewal means 207 of mail server information (renewal means of information), the data communication means 102, the document format conversion means 103, a file size decision means 104, a format selection means 105, and a mail server information storage means 208. moreover, mail server equipment 209 -- the mail server data-processing means 190, the mail server management tool 191, the format-conversion means 152, the destination information-management means 123, a data-communication means 124, a client equipment authentication means 125, a mail server information-storage means (an information-storage means) 200, and mail server information -- difference -- it consists of an extract means (information difference an extract means) 201, a document analysis means 133, an error detection means 202, a mail server change-information means (a change-information means) 203, and a mail server information acquisition means (the information acquisition means

between servers) 198 between servers.

[0078] Here, the mail server data-processing means 191 processes data communication with client equipment 100. The file server management tool 151 manages the information on a mail server 145. The format conversion means 152 is changed into the appointed file format.

[0079] In transmitting a document using the mail server 145 of the arbitration by which such client equipment 100 was connected to the public line network 80, client equipment 100 transmits a mail server information acquisition demand to mail server equipment 209. A mail server data-processing means 190 by which the mail server information acquisition demand was received analyzes the contents of data, and acquires the information on a file server available now from the mail server management tool 191. And the mail server data-processing means 190 which acquired the information concerned transmits the information to client equipment 100.

[0080] A client data-processing means 101 of client equipment 100 by which this was received notifies a user of the file server 145 which can analyze and use the contents. And mail data is transmitted to mail server equipment 209 with the mail server information specified by the user. If the file transmitted to mail server equipment 209 has the need, it will be changed by the format conversion means 152, will be transmitted to a mail server 145, and will be transmitted to a phase hand by the electronic mail.

[0081]

[Effect of the Invention] As mentioned above, all the printers that were connected to client equipment in the network according to this invention, Without installing a file server, facsimile apparatus, or the exclusive application of a device called a mail server Since it becomes possible to change a document [can acquire the information on the operation situation of a device, or an usable printer, and] to output with client equipment into predetermined printer language or a format, and to print and transmit The effective effectiveness of becoming possible to perform printing of a document and transmission is acquired without starting exclusive application and performing a transfer and format conversion of a document with client equipment.

[0082] By equipping client equipment with a document format conversion means, a file size decision means, and a format selection means, a document can be automatically changed into the file format of the minimum data size, it can transmit to server equipment from client equipment, and the effective effectiveness that reduction of the amount of data can be aimed at is acquired.

[0083] Since only the information on the printer which can access client equipment, a file server, facsimile apparatus, or a mail server is notified to client equipment by equipping server equipment with a client equipment authentication means, the effective effectiveness that reduction of the amount of data to transmit can be aimed at is acquired.

[0084] client equipment and server equipment -- an information storage means -- server equipment -- information -- difference -- an extract means by equipping client equipment with the renewal means of information The printer by which client equipment was connected to the network, a file server, the time of processing a document using facsimile apparatus or a mail server -- the newest device information -- acquiring -- information -- difference -- the difference of the information concerned extracted by the extract means, since only information is notified to client equipment and information is updated That what is necessary is just to transmit the data of the information only on a modification part, reduction of the amount of transmit data can be aimed at, and the effective effectiveness that information can be updated in a short time is acquired.

[0085] Since the document having been outputted to the printer and facsimile apparatus nearest to an addressee, and having outputted the document to the printer concerned and facsimile apparatus to the addressee by equipping server equipment with a positional information management tool further is notified when two or more printers or facsimile apparatus are connected to the network, the effective effectiveness that the communication to the addressee from a transmitting person becomes unnecessary, and a user's burden mitigates is acquired.

[0086] Since a paper size, a color, etc. are judged with a document analysis means, automatic selection of the device in which the optimal processing is possible is made and a document is outputted when only the document which a client data-processing means processes by equipping server equipment with a document analysis means is transmitted as data, the effective effectiveness that it is printable by being quality is acquired decreasing a user's burden.

[0087] Since setting modification, and informational informational modification and updating are performed by the information which detected the error generated by having an error detection means, a setting modification means, and a change information means, notified the maintenance man of this, and has been transmitted to server equipment by the maintenance man, the effective effectiveness that the burden of error processing can be reduced by the user is acquired.

[0088] When such a client/server system recognizes two or more unit existence, the device information managed with different server equipment from the server equipment which belongs to a certain client equipment by equipping the server equipment of each client/server system with the information acquisition means between servers can be acquired, or a document can be outputted, and the effective effectiveness become possible to use the device of other client/server systems is acquired.

[0089] The effective effectiveness that client equipment becomes possible [using freely any of the file server and facsimile apparatus which were connected to the network, and a mail server they are, and transmitting document data], and becomes usable [two or more devices] from desired client equipment with one server equipment is acquired by the client/server system which unified the above server equipments.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The schematic diagram showing the client/server system which is the gestalt of 1 operation of this invention

[Drawing 2] The block diagram showing the internal configuration of the client equipment in the client/server system of drawing 1 , and printer server equipment

[Drawing 3] The block diagram showing the internal configuration of the client equipment in the client/server system of drawing 1 , and file server equipment

[Drawing 4] The block diagram showing the internal configuration of the client equipment in the client/server system of drawing 1 , and facsimile server equipment

[Drawing 5] The block diagram showing the internal configuration of the client equipment in the client/server system of drawing 1 , and mail server equipment

[Drawing 6] The schematic diagram showing the example of expansion of the client/server system of drawing 1

[Drawing 7] The explanatory view showing the conventional client/server system of [Description of Notations]

80 Public Line Network

100 Client Equipment

101 Client Data-Processing Means

102 Data Communication Means

103 Document Format Conversion Means

104 File Size Decision Means

105 Format Selection Means

106 Printer Information Storage Means

107 Renewal Means of Printer Information (Renewal Means of Information)

110 Server Equipment

120 Printer Server Data-Processing Means

121 Printer Management Tool

122 Printer Language Translation Means

123 Destination Information Management Means

124 Data Communication Means

125 Client Equipment Authentication Means

130 Printer Information Storage Means (Information Storage Means)

131 Printer Information -- Difference -- Extract Means (Information Difference Extract Means)

132 Printer Positional Information Management Tool (Positional Information Management Tool)

133 Document Analysis Means

134 Error Detection Means

135 Printer Change Information Means (Change Information Means)

136 Printer Setting Modification Means (Setting Modification Means)

137 Printer Information Acquisition Means between Servers (Information Acquisition Means between Servers)

139 Printer Server Equipment

140 Printer

142 Printer

144 File Server

145 Mail Server

146 File Server

147 Facsimile Apparatus

150 File Server Data-Processing Means

151 File Server Management Tool

152 Fur Mat Conversion Means

154 Error Detection Means

157 File-Server-Information Acquisition Means between Servers (Information Acquisition Means between Servers)

161 File Server Information -- Difference -- Extract Means (Information Difference Extract Means)
 162 Renewal Means of File Server Information (Renewal Means of Information)
 164 File-Server-Information Storage Means
 165 File-Server-Information Modification Means (Change Information Means)
 166 File Server Setting Modification Means (Setting Modification Means)
 169 File Server Equipment
 170 Facsimile Server Data-Processing Means
 171 Facsimile Apparatus Management Tool
 174 Error Detection Means
 180 Facsimile Apparatus Information Storage Means (Information Storage Means)
 181 Facsimile Apparatus Information -- Difference -- Extract Means (Information Difference Extract Means)
 184 Facsimile Apparatus Information Storage Means
 185 Renewal Means of Facsimile Apparatus Information (Change Information Means)
 186 Facsimile Apparatus Setting Modification Means (Setting Modification Means)
 187 Renewal Means of Facsimile Apparatus Information (Renewal Means of Information)
 188 Facsimile Apparatus Positional Information Management Tool (Positional Information Management Tool)
 189 Facsimile Server Equipment
 190 Mail Server Data-Processing Means
 191 Mail Server Management Tool
 198 Mail Server Information Acquisition Means between Servers (Information Acquisition Means between Servers)
 199 Facsimile Apparatus Information Acquisition Means between Servers (Information Acquisition Means between Servers)
 200 Mail Server Information Storage Means (Information Storage Means)
 201 Mail Server Information -- Difference -- Extract Means (Information Difference Extract Means)
 202 Error Detection Means
 203 Mail Server Change Information Means (Change Information Means)
 207 Renewal Means of Mail Server Information (Renewal Means of Information)
 208 Mail Server Information Storage Means
 209 Mail Server Equipment
 250 Server Equipment
 270 Server Equipment
 280 Printer
 290 Public Line Network